REMARKS

Responsive to the outstanding Office Action, applicant has carefully studied the Examiner's rejections. Favorable reconsideration of the application in light of the amendments and arguments is respectfully requested.

The claims pending in the application are claims 1-20. In the response, claims 1 and 16 have been amended. Claim 16 has been amended to correct a typographical error. It is respectfully submitted that no new matter has been introduced in these amendments.

REJECTIONS UNDER 35 USC §103

In the Office Action, the Examiner rejects claims 1-20 under 35 USC §103, as being unpatentable over Stevens et al (US 5,686,178). Claims 16-20 have been rejected under 35 USC §103, as being unpatentable over Thompson US 4,027,056 in view of Stevens et al.

Rejection of independent claim 1

The invention as defined in claim 1 provides a method for producing an iron oxide coating on a glass article. The method comprises providing a heated glass substrate having a surface on which the coating is to be deposited and directing ferrocene and an oxidant toward and along the surface to be coated to form a gaseous precursor mixture. The gaseous precursor mixture is reacted at or near the surface of the glass substrate to form an iron oxide coating.

Claim 1 has been amended herein to clarify that the ferrocene and oxidant form a gaseous precursor mixture. Paragraphs [0004] and [0008] of the present application indicate that the reagents are supplied to the process and form a mixture. Additionally, paragraph [0009] of the application refers to a "mixture" of the ferrocene gas and the oxidant. Paragraphs [0009] and [0010] disclose the relative concentrations of ferrocene and the oxidant in the gas mixture. Thus, the amendments to claim 1 are supported by the specification as filed.

US 5,686,178 to Stevens discloses "chaff with transient radar absorbance and/or reflectance characteristics, having utility as an electronic warfare countermeasure useful in an absorbance mode for at least partial attenuation of radar signals, and useful in a reflectance mode as an electromagnetic detection decoy or for anti-detection masking of an offensive attack." The summary of the invention of Stevens notes that "[t]he present invention broadly relates to an article comprising a non-conductive substrate having a thickness of an *oxidizable* metal coating thereon, wherein the *oxidizable metal coating is rapidly oxidized in use to an oxidized state*." (emphasis added.) It is noted in this application that the coating on the substrate is to remain oxidizable until exposed to atmosphere. This instruction is furthered by the application of an oxidation encouraging salt as shown in the reference: "the salt-doped oxidizable metal coating is characterized by a radar signature which in the presence of moisture, e.g., *atmospheric humidity*, decays as a result of progressive oxidation of the oxidizable metal coating, with the rate of such oxidation being accelerated by the salt constituent present on the oxidizable metal coating (emphasis added.) This, it can be seen that the applied reference teaches the deposition of a metal layer on a substrate, which can later be oxidized when exposed to the atmosphere. In fact, the functionality of the applied reference is dependent upon having this oxidizable layer.

Contrary to this, claim 1 teaches that ferrocene and an oxidant are directed toward and along the surface to be coated and are reacted at or near the surface of the glass substrate to form an iron oxide coating. There is no suggestion that a metal layer be first deposited and then the deposited metal layer later be reacted with an oxidant to deposit an iron oxide layer on the substrate, as is required in the process of Stevens. Further, the amended claim now shows that the ferrocene and the oxidant form a gaseous precursor mixture. This is definitely not the case of Stevens which teaches the deposition of an iron metal coating on a substrate, with the metallic iron coating being oxidizable when exposed to atmospheric conditions. This is contrary to the present invention which teaches the deposition of an iron oxide coating, which would not be expected to react to atmospheric conditions.

It is respectfully submitted that the teaching of Stevens would not lead one skilled in the art to the present invention. Stevens, as noted, shows the formation of a

metal layer, which is oxidizable when the chaff is exposed to the atmosphere, i.e. when it is used. The present invention instead teaches the formation of an iron oxide layer on the glass substrate. The glass, when used, already has an iron oxide layer deposited on it. There is no suggestion in Stevens that would lead one skilled in the art to look to the teachings of Stevens to deposit and iron oxide coating.

Additionally, as noted previously, the applied reference teaches that the substrate should be a fibrous material that can be easily dispersed in the atmosphere, and that is biodegradable. Fibrous, biodegradable materials are not suitable for on-line float glass processes, as would be recognized by one skilled in the art. It should also be noted that the reference only suggests the use of a glass substrate where the glass has a high water solubility. This is noted in Stevens which states "[a]nother substrate candidate material is soluble glass. In the production of many silicate glasses, some amount of boria (boron oxide) is added to enhance processability. Boria has a lower melt flow temperature and lower viscosity than silica and is easier to spin, extrude, or otherwise process. Considered an unfavorable property for most glass applications, boria has an extremely high moisture sensitivity and is typically used in low concentrations. Boria is hydroscopic and in high purity it very rapidly absorbs moisture from the air causing a steady degradation of physical integrity." As noted in Stevens, this property of glass is generally not desirable, and in fact would only be desirable in similar applications wherein the user wanted the glass to dissolve. For most applications, including that of the present invention, such a glass property would not only be undesirable, but also completely unacceptable. On this basis claim 15 further distinguishes over the art of record.

On the basis of the above, it is respectfully submitted that claim 1, and the claims dependent therefrom, is fully distinguishable over the art of record.

Rejection of independent claim 16

Claim 16 discloses a method of utilizing ferrocene in a chemical vapor deposition process to form an iron oxide layer on a substrate. The ferrocene and an oxidant are mixed and delivered to the substrate for use in the chemical vapor deposition process.

With regard to the rejection of claim 16 over Stevens alone, as discussed above, Stevens in no way teaches the formation of an iron oxide layer from a chemical vapor deposition process. Instead, Stevens teaches a process for the formation of a metallic iron coating, which can then form iron oxide when exposed to atmosphere. There is nothing to suggest the use of the process of Stevens in forming an iron oxide coating. In fact, *the formation of an iron oxide coating would frustrate the purpose of the Stevens reference*, as the resultant article would not react in atmosphere to form iron oxide and would thus not serve its intended purpose (of radar avoiding chaff).

With regard to the rejection of claim 16 over Thompson in view of Stevens, Thompson discloses the formation of iron oxide films by oxidative decomposition of polyvinyl ferrocene. The polyvinyl ferrocene is deposited on the substrate and is then dried and subsequently oxidized to form a film comprising an oxide of iron. The Examiner acknowledges that the Thompson reference does not teach the mixing of the reagents prior to deposition. The Stevens reference was discussed in detail above. The Examiner asserts that it would have been obvious to utilize a gas mixture as taught by Stevens in the process of Thompson with the expectation of success.

It is respectfully submitted that, as applicants have discussed above, Stevens *does not* teach a gas mixture, and in fact *teaches directly away from* a gas mixture.

The suitability of the intended purpose of Stevens depends on having an iron coating which is oxidizable in the atmosphere to interfere with radar signals. The suggestion that the ferrocene and oxidant of Stevens are mixed prior to deposition of the coating (to form an iron oxide coating) would render the coated article of Stevens unsuitable for its intended purpose. The coating of Stevens must be *oxidizable*, not *oxidized.*

Therefore, Stevens in now way teaches or suggests the mixing of the ferrocene and the oxidant to deposit and iron oxide layer directly on the substrate. Therefore, Stevens cannot overcome the deficiency of Thompson.

Additionally, Thompson essentially teaches the deposition of the ferrocene containing precursor on the substrate. The precursor is dried and then later oxidized. Similarly, Stevens teaches the deposition of an iron layer on the substrate. When used, the iron coated substrate is exposed to an oxidant and oxidized. Neither of these

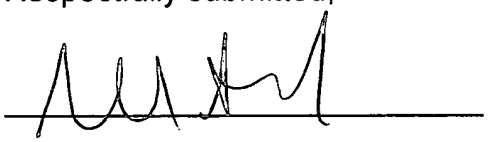
references teaches the mixing and reacting of the ferrocene containing precursor and the oxidant prior to deposition. It is respectfully submitted that claim 16 is thus fully distinguishable over the applied art of record.

Summary

Claims 2-15 and 17-20, which depend, directly or indirectly from independent claims 1 or 16, are believed to be allowable based, at least, upon this dependence from what are believed to be allowable base claims. Therefore, all of the claims are believed to be allowable over the applied art of record.

In view of the above, it is submitted that all of the claims are in condition for allowance, and action towards that end is respectfully requested. Should the Examiner wish to modify the application in any way, applicant's attorney suggests a telephone interview in order to expedite the prosecution of the application.

Respectfully submitted,



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